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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,889	12/11/2003	James R. Hochstein JR.	EH-10959 (03-429)	1531

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NEW HAVEN, CT 06510

EXAMINER
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NDUBIZU, CHUKA CLEMENT

ART UNIT	PAPER NUMBER
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3749

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/16/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/733,889

Applicant(s)

HOCHSTEIN ET AL.

Examiner

Chuka C. Ndubizu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on through 1/25/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 10-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 10-15 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 012507,041105,032904,121103.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 10-15, drawn to method of making apparatus for cleaning surface of a vessel, classified in class 15, subclass 1.
- II. Claims 1-9, drawn to apparatus for cleaning soot on surfaces classified in class 431 subclass 1.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process can be used to make a weapon.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Furthermore, because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

During a telephone conversation with applicant's attorney, Mr. William Slate, on March 5, 2007 a provisional election was made with traverse to prosecute the invention of II, claims 1-9. Affirmation of this election must be made by applicant in replying to this Office action. Claim 10-15 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Hunter 5,494,004. Hunter teaches the invention as claimed ( Fig 1-12), an apparatus for cleaning a surface within a vessel having a vessel wall 83 separating a vessel exterior from a vessel interior and having a wall aperture 81, the apparatus comprising: a source of fuel 261 and oxidizer 233A; an igniter 235 for initiating a reaction of the fuel and oxidizer (fig 7); and an elongate conduit 31 having a first end 33 and a second end 35 and positioned to direct a gas flow of the reacted or reacting fuel and oxidizer through the wall aperture 81 and discharge from the second end and comprising a plurality of segments 21, 31 secured end-to-end; a nozzle assembly extends at least partially through the vessel wall (see fig 2); the apparatus further comprising two portions, first portion 21 and second portion 31.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
2. Claims 2, 3, 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter in view of Jennings et al 2,972,502. Hunter teaches the invention as claimed and as discussed above.

However, Hunter does not teach the apparatus wherein at least three of the conduit segments have lengths along a gas flow path 1-3m and characteristic internal cross-sectional areas of 0.006-0.3m<sup>2</sup>; wherein at least three of the segments each comprise: a tubular body having first and second ends; and first and second attachment flanges proximate the first and second ends, respectively; wherein: at least one of the segments is an elbow; wherein the conduit consists essentially of three portions: an essentially straight first portion; an essentially straight second portion upstream of the first portion; and a third non-straight portion between the first and second portions;

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wherein: the second and third portions have essentially similar internal cross-sections; and the first portion includes: a downstream portion having an internal cross-section essentially similar to the internal cross-sections of the second and third portions; an upstream portion having an internal cross-section smaller than the internal cross-section of the downstream portion; and a transition portion having an internal cross-section that transitions from essentially similar to the internal cross-section of the upstream portion to essentially similar to the internal cross-section of the downstream portion; wherein the first and second portions are parallel and offset; wherein the first and second portions are oriented at an angle of 20°- 160° to each other.

Jennings teaches a cleaning apparatus (see Fig 9B), with at least three conduit segments namely; "section between 310 and 316 – first portion; section from 322 to the right – second portion; and between first and second portions – third portion"; wherein at least three of the segments each comprise: a tubular body 322 having first and second ends; and first and second attachment flanges (at the elbows) proximate the first and second ends, respectively; wherein at least one of the segments is an elbow (see fig 9); wherein the conduit consists essentially of three portions: (as described above) where straight second portion is upstream of the first portion; and a third non-straight portion is between the first and second portions (see fig 9B); wherein the second and third portions have essentially circular internal cross-sections; and the first portion includes: a downstream portion (next to the boiler wall) having a circular internal cross-section essentially similar to the internal cross-sections of the second and third portions (fig 9B); an upstream portion having an internal cross-section smaller than the internal cross-

section of the downstream portion (diameter of 316 < that of 31); and a transition portion (between 310 and 316) having a circular internal cross-section that transitions from essentially circular internal cross-section of the upstream portion 316 to essentially circular internal cross-section of the downstream portion 310; wherein the first and second portions are parallel and offset (fig 9B).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Hunter's apparatus by including all the limitations taught by Jennings and recited above in order to provide a rugged, reliable and compact apparatus that can be located outside the walls of a boiler as taught by Jennings (column 1 line 44-50).

With regard to claims 2 and 9, which recite the length along the gas path for three of the conduits being 1-3 m and the characteristic internal cross-sectional areas being about 0.006-0.3 m<sup>2</sup>; and the first and second portions being oriented at an angle of 20-160 degrees, these limitations are not given patentable weight. Hunter discloses that the first 21 and second 31 portions can be oriented at an angle between 0 and 180 degrees to each other, since the member 31 can rotate to clean the wall 360 degrees about the opening 81 (column 3 line 30-34). Hunter also discloses that the second portion cross-sectional area is greater than 0.005 m<sup>2</sup> (column 6 line 62) and the two portions have a length of about 7 ft ( 2.15 m) (column 5 line 15). Therefore, the limitations in claims 2 and 9 are matters of optimization within prior art conditions; "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) MPEP 2144.05 II A.

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**Conclusion**

The prior art made of record in the attached USPTO 892 and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuka C. Ndubizu whose telephone number is 571-272-6531. The examiner can normally be reached on Monday - Friday 8.30 - 4.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Rinehart can be reached on 571-272-4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
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20070315



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